

## Claims

We claim:

- 1        1. A method for the collection and analysis of computer system  
2        capacity data in a partition which determines a sizing metric  
3        comprising the steps of:
  - 4            a) obtaining throughput information of a computer system  
5            first partition;
  - 6            b) obtaining resource utilization information of the  
7            computer system first partition;
  - 8            c) calculating a resource control parameter using the  
9            information obtained; and
  - 10           d) using the resource control parameter to indicate resource  
11           allocation.
- 1        2. The method according to claim 1 wherein the resource  
2           utilization is CPU utilization.
- 1        3. The method according to claim 1 wherein the throughput  
2           information is displayed at a terminal as a function of resource  
3           utilization.
- 1        4. The method according to claim 1 comprising the further step  
2           of displaying inter-interval weighted averages as a function of  
3           resource utilization.
- 1        5. The method according to claim 1 wherein shifted throughput  
2           information is displayed at a terminal as a function of resource  
3           utilization.

1 6. The method according to claim 1 wherein the resource control  
2 parameter is displayed at a terminal as change in throughput  
3 divided by the change in resource utilization verses resource  
4 utilization.

1 7. The method according to claim 6 wherein the display of  
2 effective utilization is marked at the utilization at which the  
3 resource control parameter is half of its maximum.

1 8. The method according to claim 1 comprising the further step of  
2 using the effective utilization to manage the workload of the  
3 first partition.

1 9. The method according to claim 8 wherein the using step is  
2 performed by a workload manager.

1 10. The method according to claim 9 wherein the workload manager  
2 is in a second partition.

1 11. The method according to claim 1 comprising the further step  
2 of providing the throughput information and the resource  
3 utilization information for the calculating step by way of a  
4 shared memory.

1 12. The method according to claim 1 comprising the further step  
2 of providing the throughput information and the resource  
3 utilization information for the calculating step using a single  
4 operation memory to memory transfer function.

1 13. The method according to claim 8 wherein the workload is  
2 managed by modifying the resources allocated to the first  
3 partition.

1 14. The method according to claim 13 wherein the resources  
2 include I/O.

1 15. The method according to claim 13 wherein the resources  
2 include memory.

1 16. A method according to claim 13 wherein the resources include  
2 processors.

1 17. A method according to claim 8 wherein the workload is managed  
2 dynamically.

1 18. A method according to claim 1 wherein the throughput  
2 information is network packet counts.

1 19. A method according to claim 1 wherein inverse throughput is  
2 the throughput information.

1 20. A system for the collection and analysis of computer system  
2 capacity data in a partition which determines a sizing metric  
3 comprising:

1 a) means for obtaining throughput information of a computer  
2 system first partition;

3 b) means for obtaining resource utilization information of  
4 the computer system first partition;

5 c) means for calculating a resource control parameter using  
6 the information obtained; and

7 d) means for using the resource control parameter to  
8 indicate resource allocation.

1 21. The system according to claim 20 wherein the resource  
2 utilization is CPU utilization.

1 22. The system according to claim 20 wherein the throughput  
2 information is displayed at a terminal as a function of resource  
3 utilization.

1 23. The system according to claim 20 further comprising means  
2 for displaying inter-interval weighted averages as a function of  
3 resource utilization.

1 24. The system according to claim 20 wherein shifted throughput  
2 information is displayed at a terminal as a function of resource  
3 utilization.

1 25. The system according to claim 20 wherein the resource control  
2 parameter is displayed at a terminal as change in throughput  
3 divided by the change in resource utilization verses resource  
4 utilization.

1 26. The system according to claim 25 wherein the display of  
2 effective utilization is marked at the utilization at which the  
3 resource control parameter is half of its maximum.

1 27. The system according to claim 20 further comprising means for  
2 using the effective utilization to manage the workload of the  
3 first partition.

1 28. The system according to claim 27 wherein the using means is a  
2 workload manager.

1 29. The system according to claim 28 wherein the workload  
2 manager is in a second partition.

1 30. The system according to claim 20 further comprising means  
2 for providing the throughput information and the resource  
3 utilization information for the calculating step by way of a  
4 shared memory.

1 31. The system according to claim 20 further comprising means  
2 for providing the throughput information and the resource  
3 utilization information for the calculating means using a single  
4 operation memory to memory transfer function.

1 32. The system according to claim 27 wherein the workload is  
2 managed by modifying the resources allocated to the first  
3 partition.

1 33. The system according to claim 32 wherein the resources  
2 include I/O.

1 34. The system according to claim 32 wherein the resources  
2 include memory.

1 35. A system according to claim 32 wherein the resources include  
2 processors.

1 36. A system according to claim 20 wherein the workload is  
2 managed dynamically.

1 37. A system according to claim 32 wherein the throughput  
2 information is network packet counts.

1 38. A system according to claim 20 wherein inverse throughput is  
2 the throughput information.

1 39. A computer program product comprising a computer useable  
2 medium having computer readable program code means therein for  
3 the collection and analysis of computer system capacity data in a  
4 partition which determines a sizing metric, the computer readable  
5 program means in said computer program product comprising:

6 a) computer readable program means for obtaining throughput  
7 information of a computer system first partition;  
8 b) computer readable program means for obtaining resource  
9 utilization information of the computer system first partition;  
10 c) computer readable program means for calculating a  
11 resource control parameter using the information obtained; and  
12 d) computer readable program means for using the resource  
13 control parameter to indicate resource allocation.

1 40. The computer program product according to claim 39 wherein  
2 the resource utilization is CPU utilization.

1 41. The computer program product according to claim 39 wherein  
2 the throughput information is displayed at a terminal as a  
3 function of resource utilization.

1 42. The computer program product according to claim 39 further  
2 comprising computer readable program means for displaying  
3 inter-interval weighted averages as a function of resource  
4 utilization.

1 43. The computer program product according to claim 39 wherein  
2 shifted throughput information is displayed at a terminal as a  
3 function of resource utilization.

1 44. The computer program product according to claim 39 wherein  
2 the resource control parameter is displayed at a terminal as  
3 change in throughput divided by the change in resource  
4 utilization verses resource utilization.

1 45. The computer program product according to claim 44 wherein  
2 the display of effective utilization is marked at the utilization  
3 at which the resource control parameter is half of its maximum.

1 46. The computer program product according to claim 39 further  
2 comprising computer readable program means for using the  
3 effective utilization to manage the workload of the first  
4 partition.

1 47. The computer program product according to claim 46 wherein  
2 the using means is a workload manager.

1 48. The computer program product according to claim 47 wherein  
2 the workload manager is in a second partition.

1 49. The computer program product according to claim 39 further  
2 comprising computer readable program means for providing the  
3 throughput information and the resource utilization information  
4 for the calculating step by way of a shared memory.

1 50. The computer program product according to claim 39 further  
2 comprising computer readable program means for providing the  
3 throughput information and the resource utilization information  
4 for the calculating means using a single operation memory to  
5 memory transfer function.

1 51. The computer program product according to claim 46 wherein  
2 the workload is managed by modifying the resources allocated to  
3 the first partition.

1 52. The computer program product according to claim 51 wherein  
2 the resources include I/O.

1 53. The computer program product according to claim 51 wherein  
2 the resources include memory.

1 54. The computer program product according to claim 51 wherein  
2 the resources include processors.

1 55. The computer program product according to claim 46 wherein  
2 the workload is managed dynamically.

1 56. The computer program product according to claim 39 wherein  
2 the throughput information is network packet counts.

1 57. The computer program product according to claim 39 wherein  
2 inverse throughput is the throughput information.

1 58. A system for the collection and analysis of computer system  
2 capacity data in a partition which determines a sizing metric  
3 comprising:

4 a manager in the computer system, said manager operable to  
5 issue a command to obtain throughput information of a computer  
6 system first partition;

7 said manager further operable to issue a command to obtain  
8 resource utilization information of the computer system first  
9 partition;

10 said manager further operable to calculate a resource  
11 control parameter using the information obtained; and  
12 a monitor connected to said manager, said monitor indicating  
resource allocation responsive to said resource control.